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TIMOTHY N TROP
TROP PRUNER HU & MILES P C
8554 KATY FREEWAY
STE 100
HOUSTON, TX 77024

EXAMINER

ARMSTRONG, ANGELA A

ART UNIT

PAPER NUMBER

2654

DATE MAILED: 06/17/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

PD

Office Action Summary

Application No.

09/494,714

Applicant(s)

GENLY, CHRISTOPHER H.

Examiner

Angela A. Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-14,17-23 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-14,17-23 and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed January 20, 2003, applicant has cancelled claims 2, 3, 15, 16, 24, and 25 and amended claims 1, 4-6, 14, 17-19, 23, and 26-28 without adding new matter.

Claim Objections

2. Claims 9-10 are objected to because of the following informalities: currently claim 9 depends from claim 2, which was cancelled in the amendment filed April 7, 2003. The Examiner assumes claim 9 should depend from claim 1 and for further prosecution the claim will be examined as such. By dependency, claim 10 incorporates this informality. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 12-14, 22-23 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein et al (US Patent No. 6,075,575), hereinafter referred to as Schein, in view of Tomitsuka et al (US Patent No. 5,566,271), hereinafter referred to as Tomitsuka, and further in view of Mueller et al (US Patent No. 6,009,398), hereinafter referred to as Mueller.

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4. As per claims 1, 14, 23, Schein et al. disclose a system/method comprising:
a speech recognizer that recognizes spoken requests for television programming information, (see col. 6, lines 12-16);

an output device that generates response to spoken requests fro television programming information, (see Fig. 4A).

Schein fail to explicitly teach a system including a module coupled to said recognizer to implement conversational speech. However, this feature was well known in the art.

In a similar field of endeavor, Tomitsuka disclose a system comprising a voice synthesis module for implementing conversational speech, (see Fig. 1, block 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a voice synthesis module in Schein, as taught by Tomitsuka , for the purpose of using a voice synthesis in conjunction with a voice recognition module to improve man-machine interaction, as suggested by Tomitsuka.

Additionally, Schein discloses a graphical user interface which provides information in a visual form about television programming and a voice user interface which responds to voice requests from the user ..., (see Fig. 4A and col. 6, lines 36-42).

Schein does not specifically disclose the graphical user interface and voice user interface communicating such that the focus of one is communicated to the other. However this feature was well known.

In a similar field of endeavor, Mueller discloses a system, which allows for user and system interaction via speech, visual and auditory interfaces. Specifically, at col. 4, line 56 continuing to col. 5, line 29, Mueller teaches implementation of a context analyzer which

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coordinates the speech interactions with the visual interface to accommodate how the user interacts with system when the user provides input via speech or via a text based graphical user interface.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement interface focus communication as taught by Mueller, for the purpose of ensuring system performance when the user provides input via a visual or graphical user interface, as suggested by Mueller.

As per claim 12, Schein, Tomitsuka, and Mueller disclose everything as claimed in claim 1. Schein further disclose a system including a television coupled to a set top box and a remote control ..., (see col. 3, lines 21-24).

As per claims 13, 22, and 30, Schein, Tomitsuka, and Mueller disclose everything as claimed claims 1, 14 and 23. Schein fail to explicitly teach a system wherein the output device is a speech synthesizer that generates responses. However, this feature was well known in the art.

Tomitsuka discloses a system wherein the output device is a speech synthesizer that generates responses(see Fig. 1, block 19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a voice synthesis module as taught by Tomitsuka in the system of Schein, for the purpose of improving man-machine interaction, as suggested by Tomitsuka.

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5. Claims 4-8, 17-19, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Tomitsuka and Mueller, as applied to claims 1, 14, and 23 above, and further in view of Haddock (US Patent No. 5,265,014).

6. As per claims 5, 18, and 27, the combination of Schein, Tomitsuka, and Mueller teach everything as claimed in claims 1, 14, and 23. However, the combination fails to disclose producing a select variable and a where variable from a query received from a user. However, this feature was well known in the art.

In a similar field of endeavor, Haddock teaches the process of how an ambiguous query is processed and syntactically analyzed to develop a representation of the syntactic structure. The system produces a syntactic structure based upon a question/sentence format to represent a set of questions, a set of nouns, a set of phrases, and a set of verbs. Additionally, at col. 6, lines 29-41 Haddock discloses that the system characterizes the query to find values of the variable that fulfills the condition or question within the query. In the example provided by Haddock, the query produced the syntactic structure (WHICH X s.t. (PAINT *REF(he) X)), and the request of the query is to find any values of X that meet the condition of (PAINT *REF(he) X). The condition (PAINT REF(he) X), is comprised of a semantic predicate PAINT and two variables, the painter (REF(he)) and the painting (X), which reads on “produces a select variable and a where variable from a query received from a user.”

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein to process the query into a syntactic structure with different variables, as taught by Haddock, for the purpose of characterizing the query to find values of the variable that fulfills the condition or question within the query.

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As per claims 4, 6, 17, 19, 26, and 28, the combination of Schein, Tomitsuka, and Mueller teach everything as claimed in claims 1, 14, and 23. However, the combination fails to teach the implementation of historical information to modify the meaning from the users input query. However, this feature was well known in the art.

At col. 6, lines 48-60, Haddock discloses that in the example query, the meaning of the pronoun "he" is ambiguous and in order to resolve the ambiguity for further processing, the system uses the history of the dialog of a previous query to determine the reference to the "he", in order to form the completed query of (WHICH X s.t. (PAINT DEGAS X)), wherein the value of the *REF(he) is obtained from a previous query.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein to implement historical information to modify the meaning of the input of the user's input query, as taught by Haddock, for the purpose of resolving the ambiguity in the input query.

As per claim 7, Schein, Tomitsuka, Mueller and Haddock teach everything as claimed in claim 6. However, Schein fails to teach determining whether the query includes both first and second type of variable and if so, not using the historical information to modify the user's input query.

At col. 6, lines 39-59, Haddock discloses the functionality of the system for determining the meaning of an ambiguous query, in which the query representation contains the pronoun "he". The query is ambiguous because "it is not yet known who the pronoun "he" refers to because that information lies outside the query" (col. 6, lines 45-47). In this instance the system uses the history information to determine to whom "he" refers. However, if the utterance

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contains both of the attributes of the utterance, there is no ambiguous query and there is no need to use the history vector, as indicated in col. 5, lines 33-42, in which the query provided includes the names of the specific painter of whom a user wishes to retrieve information (query 1 and query 2), which reads on “determining whether the query includes both first and second type of variable and if so, not using the historical information to alter the meaning derived from the speech recognizer.”

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein, to implement determining whether the query includes both a first and a second type of variable, for the purpose of reducing unnecessary processing if the meaning of the query can be ascertained.

As per claim 8, Schein, Tomitsuka, Mueller and Haddock teach everything as claimed in claim 6. However, Schein fails to teach determining whether the query includes only one of two variable types, and if so, using the historical information to modify the user’s input query.

At col. 6, lines 39-59, Haddock discloses the functionality of the system for determining the meaning of an ambiguous query, in which the query representation contains the pronoun “he”. The query is ambiguous because “it is not yet known who the pronoun “he” refers to because that information lies outside the query” (col. 6, lines 45-47). In this instance the system uses the history information to determine to whom “he” refers. However, if the utterance contains both of the attributes of the utterance, there is no ambiguous query and there is no need to use the history vector, as indicated in col. 5, lines 33-42, in which the query provided includes the names of the specific painter of whom a user wishes to retrieve information (query 1 and query 2). At col. 6, line 13, Haddock specifically states that query 2 is ambiguous because of the

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pronoun “he”, and thus the system must resolve the ambiguity of the query via the history information. At col. 7, lines 10-35, Haddock refers to the ambiguous fourth query from col. 5, lines 42-44, in which “these” is used in the query. The system uses history information to determine the reference of the set or subset of paintings “these” actually refers. Haddock’s determination of needing to use the history dialog to resolve an ambiguous query in one instance or not needing to use a history dialog in another instance would suggest and/or motivate one of ordinary skill in the art to specifically determine if an utterance includes all necessary variables.

Additionally, Haddock discloses in order to form the completed query of (WHICH X s.t. (PAINT DEGAS X)), the value of the *REF(he) is obtained from a previous query, which reads on “merge the variable with the historical information to derive a meaning from the request .”

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein to implement determining if an input query includes only one of a type of variable, and if so using the history information to form a completed query, as taught by Haddock, for the purpose of reducing ambiguity in the query, as suggested by Haddock.

7. Claims 9-10, 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Tomitsuka and Mueller, as applied to claims 1, 14, and 23 above, and further in view of Houser et al (US Patent No. 5,774,859).

8. As per claims 9-10, 20, and 29, the combination of Schein, Tomitsuka, and Mueller teaches everything as claimed in claims 1, 14, and 23. However, the combination does not form time attributes in a request. However, this feature was well known.

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In a similar field of endeavor, Houser teaches an information system with a speech interface which controls a device such as a television and access to broadcast information. Specifically, at col. 30, lines 54-64 and col. 31, lines 39-43, Houser implements processing of search requests for television broadcast information based on time ranges ("only within 4 hours" or "only after eleven AM"). At col. 30, lines 56-58, Houser teaches that implementation of time information commands will limit the search to programming information within an identified range.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Schein and implement time command information as taught by Houser, for the purpose of limiting the search to programming information within an identified range, and therefore decrease system response time and enhance system performance.

9. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Tomitsuka and Mueller, as applied to claims 1 and 14 above, and further in view of well known prior art.

10. As per claims 11 and 21, Schein, Tomitsuka, and Mueller disclose everything as claimed in claims 1 and 14. Schein fails to explicitly teach a system including a processor coupled to the speaker and a microphone, the output of said speaker being subtracted from the output of said microphone to reduce interference. However, subtracting undesired signals from a speech signal input to a microphone was well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to subtract the output of the speaker from the input of the microphone, as

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was well known in the art, for the purpose of improving the operation of the system by reducing interference, and thereby improving the performance and accuracy of the speech recognizer.

Response to Arguments

11. Applicant's arguments filed April 7, 2003 have been fully considered but they are not persuasive. Applicant argues that neither Schein, Tomitsuka, nor Mueller suggest combining to achieve the claimed invention because Mueller has nothing to do with television programming and none of the references includes any motivation, suggestion, or teaching of the desirability of making the specific combination made by Applicant.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Mueller specifically teaches a system, which allows for user and system interaction via speech, visual and auditory interfaces. Specifically, the system coordinates the speech interactions with the visual interface to accommodate how the user interacts with system, to allow the user to receive visual or auditory information from the system and respond to the system via speech input or text input. The system is so designed to allow users with various disabilities to use the system (see col. 4, line 56 continuing to col. 5, line 29). Hence,

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implementation of the teachings of Mueller in the television programming system of Schein would ensure system performance when the user provides input via a visual or graphical user interface, thus making the system useful for persons with various disabilities.

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258.

The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Angela A. Armstrong
Examiner
Art Unit 2654

AAA
June 6, 2003

Marsha D Banks-Harold
MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600